

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES SECTION**

PART VI -A

WATERBODY MANAGEMENT PLAN SERIES

AMITE RIVER

HISTORY & MANAGEMENT ISSUES

CHRONOLOGY

April 2014 - Prepared by

Rachel Walley, Biologist Manager, District 7

July 2017 – updated by

Brian Heimann, Biologist Manager, District 7

The remainder of this page intentionally left blank.

Table of Contents

HISTORY.....	4
GENERAL INFORMATION	4
<i>Description</i>	<i>4</i>
<i>River stage</i>	<i>4</i>
<i>Parishes located</i>	<i>4</i>
<i>Border waters</i>	<i>4</i>
ACCESS	4
<i>Boat docks</i>	<i>4</i>
<i>Shoreline length.....</i>	<i>5</i>
<i>Timber type.....</i>	<i>5</i>
<i>Average depth.....</i>	<i>5</i>
<i>Water fluctuation</i>	<i>5</i>
<i>Shoreline development.....</i>	<i>5</i>
EVENTS / PROBLEMS	5
MANAGEMENT ISSUES	6
AQUATIC VEGETATION.....	6
<i>Nuisance species.....</i>	<i>6</i>
<i>Control Measures</i>	<i>6</i>
HISTORY OF REGULATIONS	8
<i>Standardized Regulations</i>	<i>8</i>
FISH KILLS / DISEASE HISTORY	8
CONTAMINANTS / POLLUTION	8
<i>Water quality.....</i>	<i>8</i>
<i>Fish consumption advisory.....</i>	<i>9</i>
BIOLOGICAL	9
<i>Fish Records</i>	<i>10</i>
<i>Species profile.....</i>	<i>10</i>
<i>Stocking and genetics</i>	<i>13</i>
<i>Threatened/endangered/exotic species</i>	<i>14</i>
ANGLER SURVEYS.....	15
HYDROLOGICAL CHANGES	15
WATER USE	15
<i>Hunting</i>	<i>15</i>
<i>Skiing</i>	<i>15</i>
<i>Scuba Diving.....</i>	<i>15</i>
<i>Swimming</i>	<i>15</i>
<i>Irrigation</i>	<i>15</i>
<i>Fishing.....</i>	<i>15</i>
<i>Boating</i>	<i>15</i>
APPENDIX I – MAP AND PARISHES	16
APPENDIX II – MAP AND LANDING	17

HISTORY

GENERAL INFORMATION

Description

Amite River is a tributary of Lake Maurepas and is the largest tributary in the Lake Pontchartrain Basin. Amite River drains portions of southwest Mississippi and southeast Louisiana. The Amite River has numerous tributaries consisting mostly of pipeline canals and bayous.

River stage

Amite River at French Settlement.

(<http://water.weather.gov/ahps2/hydrograph.php?wfo=lix&gage=fsll1&view=1,1,1,1,1,1,1,1&toggles=10,7,8,2,9,15,6&type=0>).

Flood stage at French Settlement is at 4 feet (MSL).

Parishes located

East Baton Rouge, East Feliciana, St. Helena, Ascension and Livingston Parishes.
([APPENDIX I](#) – MAP AND PARISHES).

Border waters

Comite River
Lake Maurepas
Blind River
Thompson Creek
Bayou Sara
Natalbany River

ACCESS

Boat docks

Table 1. Locations of boat ramps for Amite River, LA.

RAMP NAME	COORDINATES*	
Big John's	30.343870	-90.887852
Bay Side	30.340100	-90.849691
Public Landing	30.332258	-90.852893
Hilltop	30.255906	-90.782181
Canal Bank	30.250834	-90.773823
Chinquapin	30.262579	-90.710730
Carthage Bluff	30.307679	-90.587407

* Coordinates listed in NAD 83, decimal degrees.

([APPENDIX II](#) – MAP AND LANDING)

PHYSICAL DESCRIPTION

Shoreline length

226 miles from Mississippi border to Lake Maurepas (both shorelines of 113 river miles)

Timber type

Mixed pine and bottomland hardwood is the dominant forest type in the watershed with some freshwater swamp in the immediate vicinity of the river and its tributaries.

Average depth

12 feet

Water fluctuation

Amite River at French Settlement had a historic high crest of 9.21 feet in August of 2016 and a historic low of -1.50 feet in December of 1954. High water periods are typical for late spring/early summer. High water is also influenced by local tropical storm events. Extremely low water (less than 1.0 feet at Amite River at French Settlement) is rare and only occurs during extreme drought.

Shoreline development

Less than 5% of the shoreline is developed by landowners. Most developments are camps and houses and are located along the lower third of the river.

EVENTS / PROBLEMS

- Numerous channel modifications in the watershed have been made as a means to decrease flooding in East Baton Rouge and Livingston parishes. The construction for flood control has been ongoing since the 1950's and includes construction of the Diversion Canal that connects the Amite and Blind rivers.
- Channel modification and the creation of spoil banks have disconnected much of the surrounding swamp from the river system. Resulting impairments include:
 - alterations in the natural hydrology
 - wetland degradation and loss
 - tree mortality
 - saltwater intrusion
 - swamp impoundment
 - reduced swamp access to aquatic life
 - swamp subsidence.
- Sand and gravel mining in the river has led to vegetation loss, bank instability and increased turbidity and sedimentation. Extensively mined reaches of the river have geomorphically changed from a meandering to a braided stream that is wide and shallow and void of riffle/pool complexes.
- River length has decreased by more than six miles due to straightening and widening of the stream.
- In an attempt to counteract the negative influences of the above mentioned channel modifications, spoil bank creation, and resulting alterations in the natural hydrology of the

adjacent swamp, the Amite River Diversion Canal Modification (ARDC) project was initiated in 2010 under the direction of the USACE. Construction began in September 2016. The ARDC project is the modification to the existing Amite River Diversion Canal designed to improve hydrologic cycles in the project area, and includes the construction of gaps in the embankments of the diversion canal. The project was authorized under the Water Resources Development Act of 2007 - Section 7006(e)(3)(A), and the Coastal Protection and Restoration Authority of Louisiana (CPRA) is the cost-share partner in the development and implementation of this project. The study area, located within the Pontchartrain Basin, is situated along the Amite River Diversion Canal. The project focus is approximately 19,000 acres of bald cypress-tupelo swamp habitat adjacent to the diversion canal, extending northward and southward from the canal in the western portion of the Maurepas Swamp.

MANAGEMENT ISSUES

AQUATIC VEGETATION

Nuisance species

Common salvinia and water hyacinth have been the main source of access and habitat issues and complaints over the past several years. Common salvinia is scattered throughout the basin and is constantly being restocked by draining swamps and bayous. Within the river system, the desire to own/sell waterfront property has led to the construction of numerous man-made canals over the past 4 decades. These canals are typically 50 to 200 feet wide, dead-end offshoots of the main river channel. The canals are lined with houses, camps, boat slips, docks, and an occasional boat ramp. The canal systems are rarely designed so that river water can flow through unimpeded (i.e. horseshoe in shape, etc.). Consequently, these dead-end canals have no inherent “flushing” mechanism to remove floating vegetation. Invariably, some form of aquatic vegetation makes its way into these canals each year and remains stranded due to the stagnant water conditions, and thrives. When the suspect vegetation in these canals reaches unacceptable levels, shoreline property owners call LDWF to complain.

Estimates of vegetation coverage (as of November 13, 2017) are provided below:

Problematic Species -

Common Salvinia (*Salvinia minima*) – 25 acres

Water Hyacinth (*Eichhornia crassipes*) – 15 acres

Duckweed (*Lemna spp.*) – 15 acres

Duck Lettuce (*Ottelia alismoides*) – 50 acres

Crested Floating Heart (*Nymphoides cristata*) – 6 acres

Beneficial Species -

Yellow Water Lily (*Nymphaea mexicana*) – 100 acres

Coontail (*Ceratophyllum demersum*) – 100 acres

Control Measures

Biological

Salvinia weevils were stocked in the adjacent Blind River area in 2008 and will continue to

be stocked as they become available. Shortly after the initial stocking, Hurricane Gustav impacted the region and flooded the small slough where our weevil enclosure was located. The flood waters widely dispersed our very small concentration of weevils, inhibiting the ability for them to colonize the area. A site visit was made in 2009, samples were taken, and weevils were not found in samples pulled from the immediate or surrounding area. In late 2013, salvinia weevils living on common salvinia were again introduced into the Blind River area. Follow-up site visits have indicated that weevils are reproducing and spreading in the stocked area. Weevils have been and will continue to be stocked as they are needed and become available.

Chemical

Common salvinia was controlled from April 1 – October 31 with a mixture of glyphosate (0.75 gal/acre) and diquat (0.25 gal/acre) with Turbulence surfactant (0.25 gal/acre). From November 1 – March 31, common salvinia was controlled with diquat (0.75 gal/acre) and a 90:10 non-ionic surfactant (0.25 gal/acre).

Water hyacinth was controlled with 2,4-D (0.5 gal/acre) and a 90:10 non-ionic surfactant (1 pint/acre) or glyphosate (0.75 gal/acre) and a 90:10 non-ionic surfactant (0.25 gal/acre).

Crested floating heart, which is contained in a small area north of the Diversion Canal and in sparse patches along the canal, has been spot treated with imazamox (0.5 gal/acre) and Turbulence surfactant (0.25 gal/acre). Annually, Amite River is sprayed an average of 7 days. In the Amite River complex (including New River & Diversion Canal), approximately 150 acres of vegetation are treated with herbicides each year. More than half of the acres sprayed are common salvinia, with the remaining acreage being composed of water hyacinth, water lettuce, water lily, water paspalum, and duckweed (Table 2).

The use of herbicides is an important component of the Louisiana Department of Wildlife and Fisheries (LDWF) integrated pest management program. The proper selection and use of herbicides is essential to achieve cost effective benefits and to avoid damage to non-target species. Each product listed has been approved by the Environmental Protection Agency for aquatic use. Aquatic vegetation is treated according to the approved Herbicide Application Procedures as adopted by the LDWF Inland Fisheries Section (Table 3).

Table 2. Foliar herbicide treatments on Amite River, LA from 2008 – 2017.

AMITE RIVER										
ACRES AQUATIC VEGETATION TREATMENT BY YEAR										
PLANT	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Alligator weed	5	3	2	13	1	40	8	12	19	35
Common salvinia	197	242	32	125	88	99	65	94	83	15
Water paspalum	-	4	14	-	-	-	-	8	-	1
Water hyacinth	1	-	-	-	-	15	20	81	13	57
Other	24	0	1	18	3	26	70	52	15	9
TOTAL:	227	249	49	156	92	180	163	247	130	117

Table 3. Types of herbicide treatments for Amite River, LA. 2017.

AMITE RIVER TYPES OF HERBICIDE TREATMENTS		
SPECIES	Herbicides*	Application rates
Alligator weed	2,4-D	0.5 gal/acre
Water hyacinth	2,4-D	0.5 gal/acre
	Glyphosate	0.75 gal/acre
Common salvinia	Glyphosate/Diquat mixture	0.75 & 0.25 gal/acre
	Diquat	0.75 gal/acre

*All foliar herbicide applications included surfactant at a rate of 0.25 gal/acre, except for 2,4-D which includes a non-ionic surfactant at a rate of 0.125 gal/acre.

Limitations

During high water periods, within this river complex, common salvinia floods into the surrounding swamps where it flourishes. LDWF spray crews are unable to access these areas due to the stands of dense timber and shallow water. Consequently, healthy populations of common salvinia drain out of the swamp into the river when water levels drop.

HISTORY OF REGULATIONS

Standardized Regulations

Statewide standard commercial and recreational regulations apply. Recreational and commercial fishing regulations may be viewed at the link below:

<http://www.wlf.louisiana.gov/regulations>

FISH KILLS / DISEASE HISTORY

Fish kills were associated with the following hurricanes:

- August 1992 – Hurricane Andrew
- August 2005 – Hurricane Katrina
- September 2008 – Hurricane Gustav
- August 2012 – Hurricane Isaac

CONTAMINANTS / POLLUTION

Water quality

In 2010, the EPA listed Amite River as an impaired river due to mercury, fecal coliform, dissolved oxygen levels, chloride and other dissolved solids. This listing was updated in 2016, and large segments of the river are designated as not supporting the river's designated use for

fish and wildlife propagation.

<https://www.epa.gov/tmdl/impaired-waters-and-tmdls-region-6>

Fish consumption advisory

A consumption advisory was issued July 1, 2004 after an unacceptable level of mercury was detected in largemouth bass, spotted bass, bigmouth buffalo, white crappie (sac-au-lait), freshwater drum (gaspergou), and bowfin (choupique, grinnel). The advisory includes the Amite River from the Mississippi State Line to its confluence with Lake Maurepas, Colyell Creek, the Amite River Diversion Canal, and the Petite Amite River. The following link provides additional information regarding consumption rates for specific age/gender groups.

http://dhh.louisiana.gov/assets/oph/Center-EH/envepi/fishadvisory/Documents/Amite_River_Drainage_Basin.pdf

BIOLOGICAL

Fish sampling

To monitor the sport fishery of Amite River, LDWF initiated standardized sampling in 1990 (Table 4).

Table 4. Historical and proposed sampling efforts on the Amite River, LA from 1990 – 2020.

AMITE RIVER SAMPLING	
1990	Electrofishing – 3 stations (fall)
1996	Electrofishing – 2 stations (spring and fall)
1998	Electrofishing – 5 stations (spring) Electrofishing – 6 stations (fall)
1999	Electrofishing – 5 stations (spring and fall)
2006	Electrofishing – 4 stations (spring and fall)
2007	Electrofishing – 4 stations (spring and fall)
2008	Electrofishing – 4 stations (spring and fall)
2009	Electrofishing – 4 stations (spring and fall)
2010	Electrofishing – 4 stations (spring and fall)
2012	Electrofishing – 4 stations (spring and fall) Hoop nets – 3 sites

2013	Electrofishing – 4 stations (spring, summer and fall) Ichthyoplankton trawls – 2 stations (May, June, July)
2014	Electrofishing – 4 stations (spring and fall) Ichthyoplankton trawls – 2 stations (April, May, June)
2018	LMB age, growth, & mortality project, electrofishing
2019	LMB age, growth, & mortality project, electrofishing
2020	LMB age, growth, & mortality project, electrofishing

NOTE: Years of post-hurricane electrofishing efforts measure natural recovery of fishery.

Fish Records

See LOWA state records <http://laoutdoorwriters.com/louisiana-fish-and-big-game-records/louisiana-fish-records/>

Table 5. State record fishes captured by anglers Amite River, LA.

SPECIES	WEIGHT (lbs.)	DATE	STATE RANK
White Bass	6.81	August 2010	1

Species profile

A list of species collected or known from Amite River is found in Table 6.

Table 6. Fish species collected or known to occur in the Amite River watershed, LA.

Family, Scientific and Common Names

Achiridae – American soles

Trinectes maculatus - northern hogchoker

Acipenseridae – sturgeons

Acipenser oxyrinchus desotoi- Gulf sturgeon

Amiidae – bowfin

Amia calva – bowfin

Aphredoderidae – trout perches

Aphredoderus sayanus - pirate perch

Anguillidae – freshwater eels

Anguilla rostrata - American eel

Atherinopsidae - New World silversides

Labidesthes sicculus - brook silverside

Menidia beryllina - inland silverside

Catostomidae – suckers

Carpiodes carpio - river carpsucker

Erimyzon sucetta - lake chubsucker

Erimyzon oblongus - creek chubsucker

Erimyzon claviformis - western creek chubsucker
Erimyzon tenuis - sharpfin chubsucker
Hypentelium nigricans - northern hogsucker
Minytrema melanops - spotted sucker
Moxostoma poecilurum - blacktail redhorse
Ictiobus bubalus - smallmouth buffalo
Ictiobus cyprinellus - bigmouth buffalo
Ictiobus niger - black buffalo

Centrarchidae - sunfishes

Ambloplites ariommus - shadow bass
Centrarchus macropterus - flier
Elassoma zonatum - banded pygmy sunfish
Lepomis cyanellus - green sunfish
Lepomis humilis - orangespotted sunfish
Lepomis macrochirus - bluegill
Lepomis gulosus - warmouth
Lepomis marginatus - dollar sunfish
Lepomis megalotis - longear sunfish
Lepomis microlophus - redear sunfish
Lepomis symmetricus - bantam sunfish
Micropterus punctulatus - spotted bass
Micropterus salmoides - largemouth bass
Pomoxis annularis - white crappie
Pomoxis nigromaculatus - black crappie

Clupeidae – herrings

Alosa chrysochloris - skipjack herring
Dorosoma cepedianum - gizzard shad
Dorosoma petenense - threadfin shad
Brevoortia patronus - Gulf menhaden

Cyprinidae - carps and minnows

Macrhybopsis aestivalis - speckled chub
Macrhybopsis storeriana - silver chub
Hybopsis winchelli - clear chub
Notemigonus crysoleucas - golden shiner
Hybopsis amnis - pallid shiner
Luxilus chrysocephalus - striped shiner
Lythrurus fumeus - ribbon shiner
Notropis longirostris - longnose shiner
Notropis maculatus - taillight shiner
Lythrurus roseipinnis - cherryfin shiner
Notropis texanus - weed shiner
Cyprinella venusta - blacktail shiner
Notropis volucellus - mimic shiner
Opsopoeodus emiliae - pugnose minnow
Pimephales promelas - fathead minnow
Pimephales vigilax - bullhead minnow

Hybognathus hayi - cypress minnow
Cyprinus carpio - common carp
Notropis atherinoides - emerald shiner
Hypophthalmichthys molitrix - silver carp
Elopidae – tarpons
Elops saurus – ladyfish
Engraulidae – anchovies
Anchoa mitchilli - bay anchovy
Esocidae – pikes
Esox americanus - grass pickerel
Esox niger - chain pickerel
Fundulidae – topminnows and killifishes
Fundulus chrysotus - golden topminnow
Fundulus catenatus - studfish
Fundulus notatus - blackstripe topminnow
Fundulus olivaceus - blackspotted topminnow
Fundulus euryzonus - broadstripe topminnow
Ictaluridae - North American catfishes
Ameiurus melas - black bullhead
Ameiurus natalis - yellow bullhead
Ameiurus nebulosus - brown bullhead
Ictalurus furcatus - blue catfish
Ictalurus punctatus - channel catfish
Pylodictis olivaris - flathead catfish
Noturus gyrinus - tadpole madtom
Noturus leptacanthus - speckled madtom
Noturus miurus - brindled madtom
Noturus nocturnes - freckled madtom
Lepisosteidae - gars
Lepisosteus oculatus - spotted gar
Lepisosteus osseus - longnose gar
Lepisosteus platostomus - shortnose gar
Lepisosteus spatula - alligator gar
Moronidae – temperate basses
Morone mississippiensis - yellow bass
Morone chrysops - white bass
Mugilidae – mullets
Mugil cephalus - striped mullet
Petromyzontidae - northern lampreys
Ichthyomyzon gagei - southern brook lamprey
Paralichthyidae – flounders
Paralichthys lethostigma - southern flounder
Percidae – perches
Ammocrypta beanii - naked sand darter
Etheostoma chlorosomum - bluntnose darter
Etheostoma fusiforme - swamp darter

Etheostoma proeliare - cypress darter
Etheostoma stigmaeum - speckled darter
Etheostoma swaini - Gulf darter
Etheostoma zonale - banded darter
Percina maculata - blackside darter
Percina nigrofasciata - blackbanded darter
Percina vigil - saddleback darter
Percina sciera - dusky darter
Ammocrypta vivax - scaly sand darter
Percina caprodes – logperch
 Poeciliidae – livebearers
Gambusia affinis - western mosquitofish
Poecilia latipinna - sailfin molly
Heterandria formosa - least killifish
 Polyodontidae – paddlefishes
Polyodon spathula – paddlefish
 Sciaenidae – drums
Aplodinotus grunniens - freshwater drum
Micropogonias undulatus - Atlantic croaker
 Sparidae – porgies
Archosargus probatocephalus - sheepshead
Lagodon rhomboides – pinfish
 Syngnathidae – pipefishes and seahorses
Syngnathus scovelli - Gulf pipefish

Stocking and genetics

Initial stocking efforts were a response to major fish kills caused by Hurricane Andrew. Subsequent stockings were the result of Hurricanes Katrina and Gustav. Amite River has been stocked with 780,308 Florida strain largemouth bass since 1993 (Table 7).

Table 7. Stocking history of Amite River, LA from 1993 – 2010.

YEAR	LMB FINGERLINGS	LMB ADULT	FLMB FRY	FLMB FINGERLINGS	BLUEGILL FINGERLINGS	CHANNEL CATFISH FINGERLINGS	BLACK CRAPPIE FINGERLINGS
1993	40,000	204					
1994	346						
1995	118,600						
1996				17,371			
1997	23,750*						
1999				16,772			
2000				13,965			
2001				10,000			
2002				10,546			
2003				10,036			
2004				10,013			

2005				10,059			
2006	288	200		171,299	117,444	30,116	
2007				175,695	79,095	106,535	
2008				120,703		19,000	1,339
2009				186,419	389,283	6,970	
2010				3,680		3,672	
TOTAL	159,234	404	23,750	756,558	585,822	166,293	1,339

A majority of these fish were stocked post hurricanes Katrina and Gustav, in response to public outcry over the massive fish kills that occurred following the storm events. In the post storm absence of predation and competition, the Florida largemouth bass should have become dominant in this coastal river. However, this species failed to become established. Genetic testing conducted in 2010 indicated that less than 10% of the Florida genome was present in the sample results (Table 8). The stockings of Florida largemouth bass in the nearby Tangipahoa, Tickfaw and Blind Rivers yielded similar results. This tenacity for recovery of native largemouth bass populations has also been noted in other coastal river systems including the Calcasieu, Mermentau and Sabine rivers in southwest Louisiana following hurricanes Rita (2005) and Ike (2008). These systems received little to no stockings of largemouth bass before and after the hurricane related fish kills, yet yielded record catch rates within two years into recovery. These observations suggest that native coastal populations of largemouth bass (and other indigenous fish species) have adapted to these periodic storm events and rapid recovery is part of the natural selection process.

Table 8. Results of 2010 genetic testing for the Florida gene on Amite River, Louisiana.

Number of fish	% Northern	% Hybrid	% Florida
151	91	7	2

Threatened/endangered/exotic species

Paddlefish (*Polyodon spathula*), Alabama shad (*Alosa alabamiae*), and Gulf sturgeon (*Acipenser oxyrinchus desotoi*) are inhabitants of the Lake Pontchartrain Basin.

In early summer of 2012, two adult silver carp (*Hypophthalmichthys molitrix*) were identified in the Amite River. An adult silver carp was also identified in late summer of 2013. These fish may have been introduced via the Bonnet Carré Spillway operation by the US Army Corps of Engineers during the 2011 flood event. To date, no juveniles have been observed. Sampling efforts began in summer of 2013 to determine if Asian carp are reproducing in the watershed.

In winter 2012, following Hurricane Isaac, a commercial fisherman caught a plecostomus (*Hypostomus plecostomus*) measuring over ten inches in length in a hoop net.

The invasive apple snail (*Pomacea maculata*) has been documented in the New River Canal, a discharge canal that empties into the Petite Amite River. As of late summer 2017, heavy infestations of the snail have been reported throughout the lower Amite River from Port Vincent to Lake Maurepas.

ANGLER SURVEYS

No angler surveys have been conducted

HYDROLOGICAL CHANGES

- Shortening and widening of the river has resulted in floodwaters reaching the lower developed portion of the river faster.
- Channel modifications and creation of spoil banks has decreased the river's connection to surrounding wetlands.
- Urban development and agricultural expansion has increased the amount of surface water runoff.
- The Diversion Canal that connects Amite and Blind rivers was constructed in the 1960's as a means to reduce flooding along the Amite River.

WATER USE

Hunting

Yes

Skiing

Yes

Scuba Diving

No

Swimming

Yes

Irrigation

Yes

Fishing

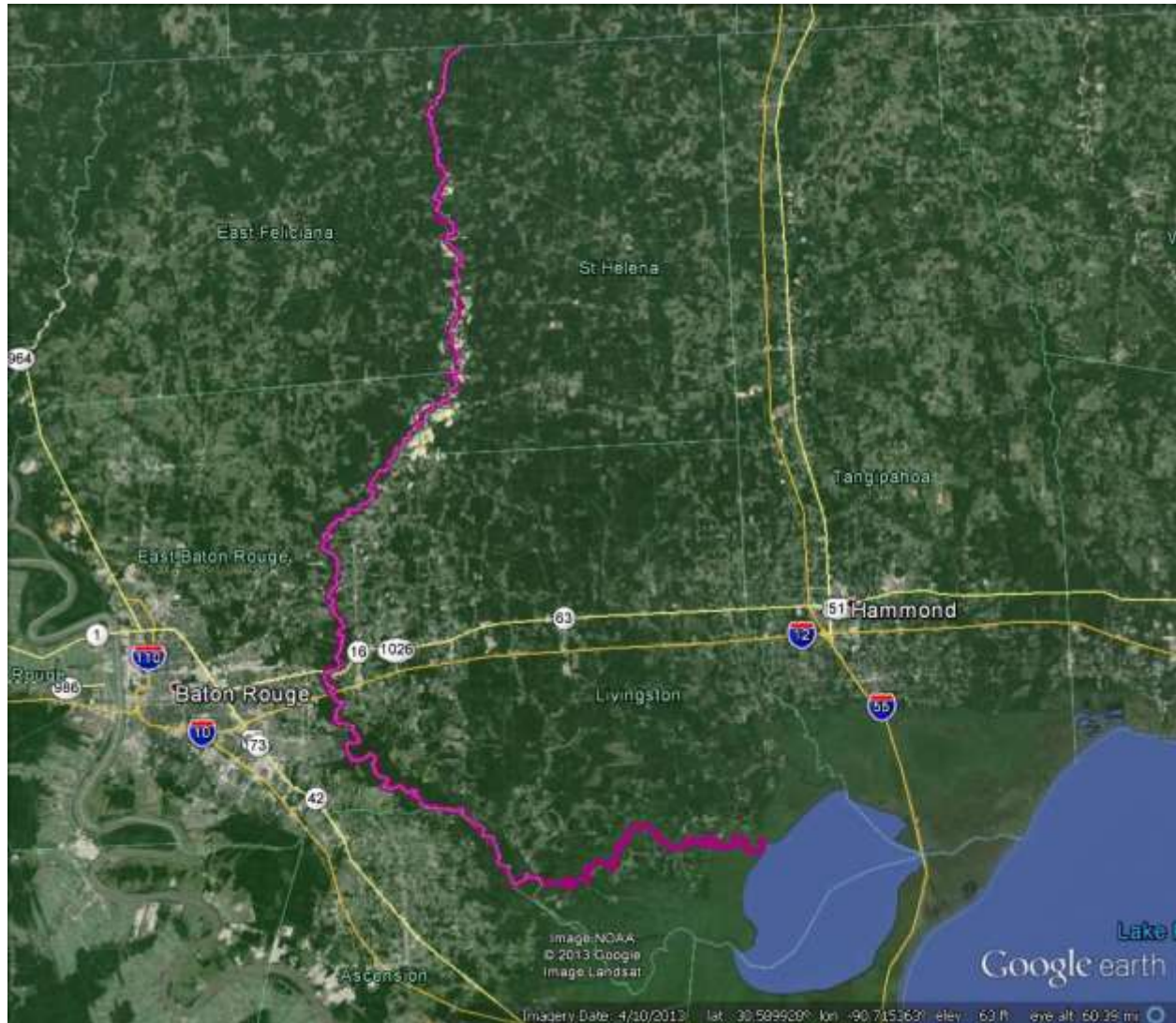
Yes

Boating

Yes

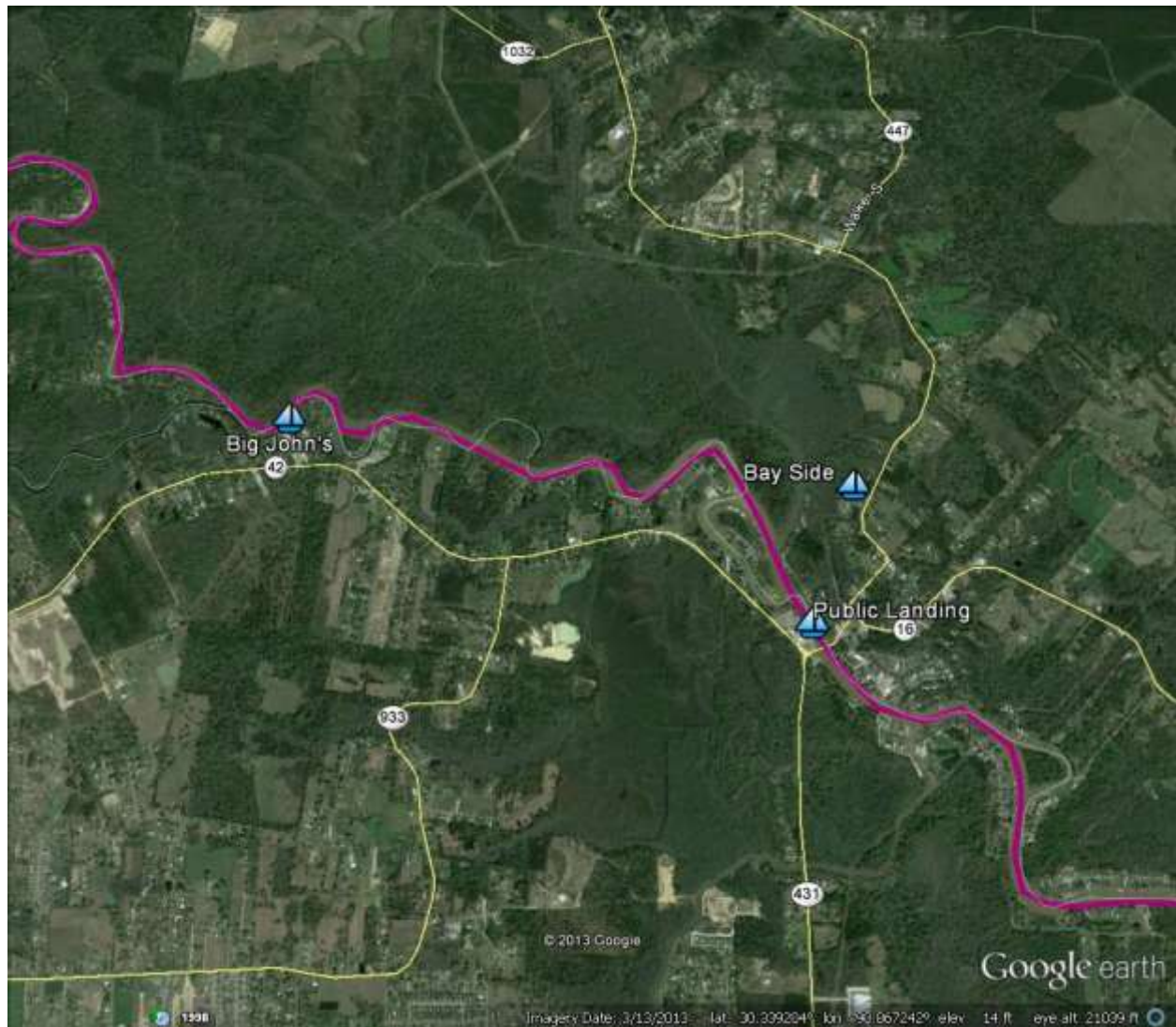
APPENDIX I – MAP AND PARISHES

[\(Return to document\)](#)



APPENDIX II – MAP AND LANDING

[\(return to boat docks\)](#)



APPENDIX II – MAP AND LANDING CONTINUED

